

DUV60E-Z4KZHAZAS06

DUV60

MEASURING WHEEL ENCODERS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
DUV60E-Z4KZHAZAS06	1090984

Other models and accessories → www.sick.com/DUV60



Detailed technical data

Features

Special device	✓
Specialty	1500 pulses per revolution Includes 5 m mating cable (part no.: 6032867, DOL-1208-G05MAC1) Mounting holes in bracket compatible with anti anti-static brush
Standard reference device	DUV60E-D4KCHADA, 1090983

Performance

Pulses per revolution	1,500
Resolution in pulses/mm	5 pulses/mm
Measuring step	90° electric/pulses per revolution
Measuring step deviation	± 18°, / pulses per revolution
Error limits	Measuring step deviation x 3
Duty cycle	0.5 ± 5 %
Initialization time	< 5 ms ¹⁾

¹⁾ Valid positional data can be read once this time has elapsed.

Interfaces

Communication interface	Incremental
Communication Interface detail	HTL
Number of signal channels	6-channel, A, AN, B, BN, Z, ZN

Electrical data

Operating power consumption (no load)	120 mA
Connection type	Cable, with male connector, M12, 8-pin, universal, 5 m
Power consumption max. without load	≤ 1.25 W
Supply voltage	4.75 V ... 30 V
Load current max.	≤ 30 mA, per channel
Maximum output frequency	60 kHz
Reference signal, number	1
Reference signal, position	90°, electric, logically gated with A and B

¹⁾ This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40°C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

Reverse polarity protection	✓
Short-circuit protection of the outputs	✓
MTTFd: mean time to dangerous failure	275 years (EN ISO 13849-1) ¹⁾

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Mechanical data

Measuring wheel circumference	300 mm
Measuring wheel surface	Smooth plastic (urethane) ¹⁾
Spring arm design	Spring tension, under-belt flange mount
Mass	0.9 kg ²⁾
Encoder material	<div> <div>Shaft</div> <div>Flange</div> <div>Housing</div> <div>Cable</div> </div> <div> <div>Stainless steel</div> <div>Aluminum</div> <div>Aluminum</div> <div>PVC</div> </div>
Spring arm mechanism material	<div> <div>Spring element</div> <div>Measuring wheel, spring arm</div> <div>Yoke</div> <div>Counterweight</div> </div> <div> <div>Spring steel</div> <div>Aluminum</div> <div>Aluminum</div> <div>Aluminum</div> </div>
Start up torque	0.5 Ncm
Operating torque	0.4 Ncm
Operating speed	1,500 min ⁻¹
Bearing lifetime	3.6 x 10 ⁹ revolutions
Maximum travel/deflection of spring arm	40 mm ³⁾
Recommended pretension	20 mm ³⁾
Max. permissible working area for the spring (continuous operation)	± 10 mm

¹⁾ The surface of a measuring wheel is subject to wear. This depends on contact pressure, acceleration behavior in the application, traversing speed, measurement surface, mechanical alignment of the measuring wheel, temperature, and ambient conditions. We recommend you regularly check the condition of the measuring wheel and replace as required.

²⁾ Based on an encoder with a plug connector output and urethane rollers, no mounting necessary (arm mount).

³⁾ Only applies to variants with spring arm mounting.

Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP65
Permissible relative humidity	90 % (Condensation not permitted)
Operating temperature range	-30 °C ... +70 °C
Storage temperature range	-40 °C ... +75 °C

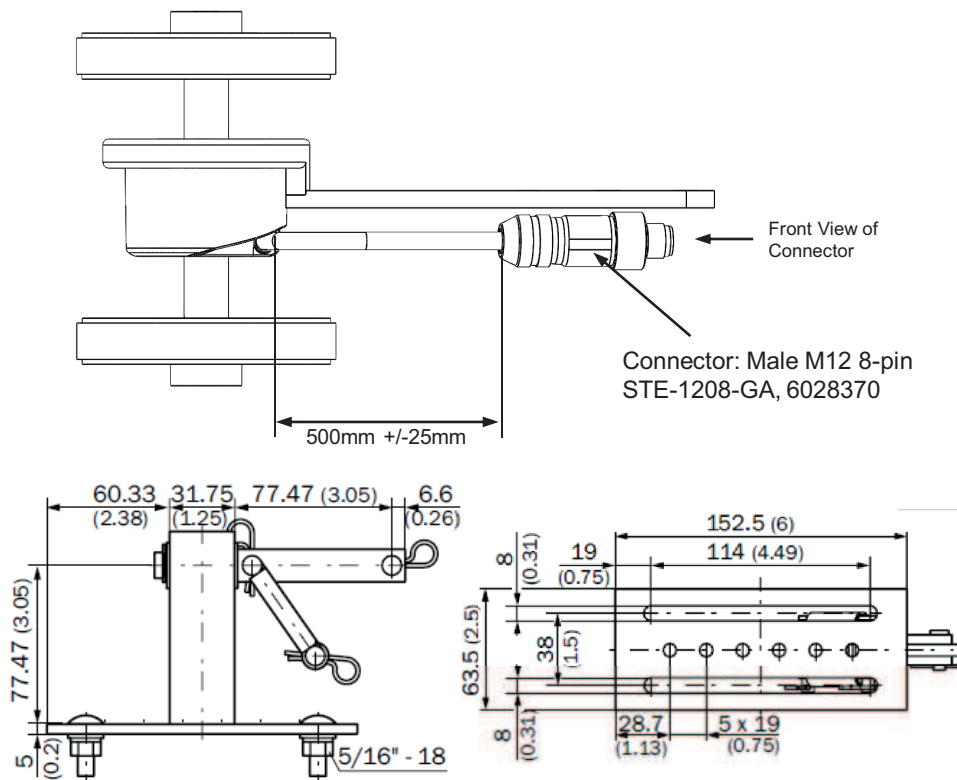
Classifications

ECLASS 5.0	27270501
ECLASS 5.1.4	27270501

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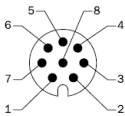
ECLASS 6.0	27270590
ECLASS 6.2	27270590
ECLASS 7.0	27270501
ECLASS 8.0	27270501
ECLASS 8.1	27270501
ECLASS 9.0	27270501
ECLASS 10.0	27270790
ECLASS 11.0	27270707
ECLASS 12.0	27270504
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))



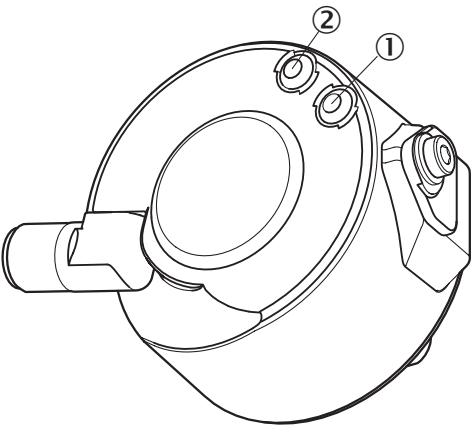
PIN assignment

M12 8-pin	Signal	Wire Color	Description
1	A-	Brown	Channel A complement
2	A	White	Channel A
3	B-	Black	Channel B complement
4	B	Pink	Channel B
5	Z-	Yellow	Marker channel complement
6	Z	Violet	Marker channel
7	GND	Blue	Ground connection (-)
8	Us	Red	Supply voltage (+)
-	Case	Case	Case ground
-	Shield	Shield	Shielding



Adjustments

Status indicator LED



- ① Signal
- ② Fault/Power

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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